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Description

Method for administering supplementary services in telecommunication systems

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The invention relates to intelligent networks in the field of telecommunications, particularly of mobile radio, which provide the user with various services. Such services include, for example, a prepaid service (PPS), virtual private networks (VPN) or a personal number service (PNS) by means of which a subscriber can always be reached under the same subscriber number at various stations or within various communication networks.

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In addition to these primary services, the offer of performances or services (supplementary services), which are available and can be selected/deselected on a user-related basis, is increasing. Such supplementary facilities are known, for example, by the terms "blacklist" (list of subscribers whose call is, for example, unwanted and should be filtered out), "white list" (subscribers whose calls are wanted), "friends and family" (preferred subscribers, for example in connection with price discounts) or "hunting list" (sequential forwarding between a number of subscribers until one of the subscribers can be reached).

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A user- or subscriber-related adjustment (administration) of the supplementary services (for example adding or deleting a subscriber identification number in one or from one of the services described above) via DTMF menus, known per se, is comparatively expensive because the subscriber demands various optional choices

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supplementary service "family and friends" by the (preferably indicated) subscriber identification number of the calling subscriber station being transferred, for example, by corresponding marking or clicking on
 5 the desired supplementary service in the menu ("family and friends"). In the same manner, a supplementary service can also be administered in order to, for example, remove a subscriber identification number from a supplementary service or to change it.

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An essential aspect of the method according to the invention is thus that the supplementary services available for the called subscriber station are assembled and transmitted, together with a selection
 15 option of the called subscriber station, in dependence on the subscriber identification number of the calling subscriber station with respect to this calling number by a higher-level logic. As a result, the supplementary services can be administered advantageously before,
 20 after or during the conversation with the respective calling subscriber station without the subscriber being forced to carry out elaborate administration procedures. In particular, the elaborate calling of a corresponding service number followed by manual and/or
 25 voice-guided input of the administration requests is eliminated.

An advantageous embodiment of the invention consists in that the operating menu is transmitted as a WAP
 30 (wireless application protocol) page.

The term "wireless application protocol" (WAP) designates an increasingly used technology in telecommunications by means of which mobile radio stations
 35 preferably equipped, for example,

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with a relatively large display, communicate with the Internet. An essential aspect of the invention consists in using this technology as a comfortable dialogue system between mobile radio station and intelligent
5 node. The corresponding WAP page is built up by the intelligent node or an external logic (such as the "service manager point" (SMP) (SPC cluster) already mentioned).

10 A preferred embodiment of the method consists in that the operating menu is already transmitted during the signaling of the call to the called subscriber station.

In this case, the subscriber can use the call for
15 administering his supplementary services at a particularly early time - possibly without even having to accept the call.

In the text which follows, an exemplary embodiment of
20 the invention will be explained in greater detail with reference to a drawing, in which:

Figure 1 diagrammatically shows the sequence of the method according to the invention and
25 Figure 2 shows an example of an operating menu.

Figure 1 shows a situation in which a call R1 of a calling subscriber station AR passes, for example from a landline network, to a mobile switching center (MSC).
30 Depending on the protocol used (e.g. ISUP), this can occur in the form of an "initial address message" (IAM) which contains the subscriber identification number of the calling subscriber station (ClgNo.: 0303861111) and of the called subscriber station (CldNo. +4917112345).
35 Figure 1 shows data transmissions in dot-dashed arrows whereas voice transmissions are shown in

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will be received in the menu.

To transmit the operating menu pages, the WAP (wireless application protocol) technology is used. In this
5 technology, the operating menu pages are described as WML (wireless markup language) (WAP generation). WAP designates a user-friendly communication technology which is known per se and which has been developed in particular for mobile radio telephones with Internet
10 connection. In the telecommunication application, the WAP technology is also called WTA. The WAP page is transmitted via a WAP gateway WAPGW to the mobile switching center MSC and from there to the called subscriber station AG. This is preferably done already
15 together with the paging message to the subscriber station AG. In fact, two traffic channels are established as already mentioned above - namely a channel between the subscribers (voice channel) and a data channel between subscriber station AG and node
20 SCP. These traffic channels are correlated and co-ordinated by the node SCP and the management SMP, respectively.

Figure 2 shows the representation of the WAP page on
25 the display DP of the called subscriber station AG. The called subscriber (Mr. Mustermann) is able to recognize the subscriber identification number (call: 0303861111) of the calling subscriber station in the display DP and add the number, for example to the "blacklist" (add No.
30 to service) by means of a simple menu (bar up/down) and corresponding operation of the key T (select). It is also correspondingly possible to add the call number to the "white list" or to remove it from it again. This input for service administration

